

This miniproject asks you to solve a puzzle that I found in the book “536 Puzzles & Curious Problems”, by Henry Ernest Dudeney (copyright 1967). (The solution does actually use something found in this section!)

Solve the following puzzle (and explain how to find the solution without making an actual count):

PUSSY AND THE MOUSE

“There’s a mouse in one of these barrels,” said the dog.

“Which barrel?” asked the cat.

“Why, the five hundredth barrel.”

“What do you mean by the five hundredth? There are only five barrels in all.”

And the dog explained that you count like this:

1	2	3	4	5
9	8	7	6	
	10	11	12	13

So that the seventh barrel would be the one marked 3 and the twelfth barrel the one numbered 4.

“That will take some time,” said the cat, and she began a laborious count. Several times she made a slip and had to begin again.

“Rats!” exclaimed the dog. “Hurry up or you will be too late!”

“Confound you! You’ve put me out again, and I must make a fresh start.”

Meanwhile the mouse, overhearing the conversation, was working madly at enlarging a hole, and just succeeded in escaping as the cat leapt into the correct barrel.

“I knew you would lose it,” said the dog. “Your education has been sadly neglected. A certain amount of arithmetic is necessary to every cat, as it is to every dog. Bless me! Even some snakes are adders!”

Which was the five hundredth barrel? Can you find a quick way of arriving at the answer without making the actual count?